

US EPA RECORDS CENTER REGION 5



584402

SITE AIR MONITORING PLAN

FOR THE

Mahoningside Power Plant Site

Warren, Trumbull County, Ohio

TDD # S05-0501-011

Prepared For:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region V Emergency Response Branch

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A handwritten signature in black ink, appearing to read "Frank Beodray".

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Date

2/28/05

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1.0 MONITORING PLAN OVERVIEW

This Air Monitoring Plan outlines monitoring strategies and analytical methods, which can be used to assess personnel exposure to contaminants and off-site migration of contaminants during environmental services at the Mahoningside Power Plant Site, 650 Summit Street, Warren, Ohio. Monitoring will consist of evaluating personnel exposures to asbestos while workers perform activities associated with the sampling and removal of three soil/debris piles, which have the potential for site contaminants (asbestos) to become airborne. Personal monitoring will be performed for the first seven days of site activities and will include: one technician and one operator during the site activities. The only exception for not doing air monitoring is in the event of precipitation (snow or rain) which would virtually eliminate any airborne particles and act as a natural, engineering control mechanism. This situation may also prohibit accurate sampling. A decision regarding the performance of monitoring which may be impacted by weather conditions will be discussed with EPA prior to the work day beginning. In the event monitoring is not performed, START will be documented the reasons why monitoring was not conducted. If monitoring results indicated asbestos above the PEL, monitoring will continue until monitoring results for 7 consecutive days are below the PEL. A PEL limit of 0.1 fibers/cc will be used to assess the data.

Monitoring will also consist of evaluating the off-site migration of site contaminants through perimeter monitoring. Perimeter monitoring will include: one fixed location upwind of the site activities located west of the soil/debris piles and east of North Tod, and three fixed locations downwind of the site activities located east of the soil/debris piles and west of the Mahoning River. If monitoring results indicate asbestos below the Permitted Exposure Limit (PEL), perimeter monitoring will be discontinued. If monitoring results indicated asbestos above the PEL, monitoring will continue until monitoring results for 7 consecutive days are below the PEL. Even if the 7-day PEL criteria above are met, 1 or 2 person air monitoring will continue through the duration of the project to assure worker protection. Limited perimeter monitoring may also resume if conditions substantially change as the weather begins to warm up towards the later stages of the project.

1.1 Airborne Contaminant Evaluations

To quantify potential worker exposure concentrations of airborne asbestos fibers that may be released while disturbing impacted material, monitoring will be performed in the worker's breathing zones (BZ) throughout a representative work shift (a minimum of seven hours). To quantify off-site migration concentrations of airborne asbestos fibers that may be released while disturbing impacted material, monitoring will be performed at the breathing zones (approximately 5 feet) throughout a representative work shift (a minimum of seven hours). Quantitative and qualitative monitoring will be conducted by WESTON START using the instrumentation and methods specified in Tables 1-1 and 1-2.

TABLE 1-1 AIR MONITORING SPECIFICATIONS

INSTRUMENT TYPE	EQUIPMENT MANUFACTURER	TARGET STRESSOR
<p>Personal monitoring pumps (battery operated) calibrated to an appropriate flow rate of 2.0 liters per minute equipped with sampling cartridge listed in the NIOSH Method 7400, PCM for asbestos.</p> <ol style="list-style-type: none"> 1. The cartridges used for personal monitoring will be attached directly to the work uniform near/on the lapel at a 45 degree angle. 2. The cartridges used for perimeter monitoring will be attached to the stand or some other stationary device holding the pump at an elevation of approximately 5 feet. 	<p>SKC, MSA, (or equivalent).</p> <p>Number of Pumps Required: 7 (6 used for personal and perimeter monitoring and 1 stored as backup).</p>	<ol style="list-style-type: none"> 1. Asbestos <p>Personal monitoring will include:</p> <ol style="list-style-type: none"> 1) One (1) worker performing each specific job task for the soil/debris pile sampling and removal activities, which includes: one (1) technician and one (1) operator. 2) When sampling for asbestos, the pump will be equipped with a 25mm MCEF sampling cassette. <p>Perimeter monitoring will include:</p> <ol style="list-style-type: none"> 1) One (1) fixed location upwind of the soil/debris pile sampling and removal activities, and one (1) fixed location downwind of the soil/debris pile sampling and removal activities. 2) When sampling for asbestos, the pump will be equipped with a 25mm MCEF sampling cassette.

* MCEF – mixed cellulose ester fiber

1.1.1 Personal Monitoring

Measurement of personnel exposures to asbestos while workers perform activities associated with the sampling and removal of three soil/debris piles, which have the potential to disturb impacted materials and may include the following: excavation, material segregation, material sampling, material loading, or decontamination operations. Personal monitoring will be performed for the first seven days of site activities and will include: one technician and one operator during the site activities. If monitoring results indicate asbestos below the Permitted Exposure Limit (PEL), personal monitoring will be discontinued. If monitoring results indicated asbestos above the PEL, monitoring will continue until monitoring results for 7 consecutive days are below the PEL. Monitoring techniques will be determined by the Site Health and Safety Officer (SHSO), and will conform to applicable Occupational Safety and Health Administration (OSHA), and/or National Institute for Occupational Safety and Health (NIOSH) sampling methods. Samples will be collected by, or under the direction of, a member of the WESTON Health and Safety Department. An Analytical Laboratory accredited by the American Industrial Hygiene Association (AIHA) and participant in the AIHA Proficiency Analytical Testing (PAT) program, shall perform the analysis.

1.1.2 Perimeter Monitoring

Measurement of off-site migration of site contaminants (asbestos) during activities associated with the sampling and removal of three soil/debris piles, which have the potential to disturb impacted materials and may include the following: excavation, material segregation, material sampling, material loading, or decontamination operations. Perimeter monitoring will be performed for the first seven days of site activities and will include one sample point at each of the following four locations;

- Upwind of the work activities (predominantly at the western point)
- Downwind of the work activities (predominantly at the western point)
- North side of work activities within the work zone
- South side of work activities within the work zone

If monitoring results indicate asbestos below the Permitted Exposure Limit (PEL), personal monitoring may be discontinued. If any of the monitoring results indicated asbestos above the PEL, monitoring will continue until monitoring results for 7 consecutive days are below the PEL. Monitoring techniques will be determined by the Site Health and Safety Officer (SHSO), and will conform to applicable Occupational Safety and Health Administration (OSHA), and/or National Institute for Occupational Safety and Health (NIOSH) sampling methods. Samples will be collected by, or under the direction of, a member of the WESTON Health and Safety Department. An Analytical Laboratory accredited by the American Industrial Hygiene Association (AIHA) and participant in the AIHA Proficiency Analytical Testing (PAT) program, shall perform the analysis.

Perimeter Data RAM

A Perimeter data RAM (PDR) will also be used to assure dust and particulate levels are monitored and maintained during work activities. Baseline reading will be established one day before soil moving operations begin to determine what background conditions are onsite. These readings will be used to compare the particulate concentration levels to the levels once the work has commenced. Two PDR units will be employed to monitor the site conditions. One will be placed downwind of the work activities and will be continuously recorded for the first 3 days of activities to establish average work conditions down wind of the CAT excavator and or loader. A second PDR will be placed at a closer proximity to the operator and will be moved periodically to collect readings all around the work activities. An action level of 0.500 mg/m^3 sustained for a full minute will require ceasing action and re-evaluating the work activity, current conditions and what engineering controls (i.e. wetting of soil) can be applied to reduce the particulate matter in the atmosphere. After the initial 3-day evaluation a determination will be made as to the frequency of monitoring required. At minimum, the PDR's will be set up for an hour each day to monitor the day's activities.

1.2 Maintenance and Calibration of Equipment

All monitoring equipment will be maintained and calibrated in accordance with applicable manufacturer recommendations. All pertinent data will be logged in a logbook (or equivalent) and maintained on site for the duration of site activities. Calibration of all monitoring equipment will be performed daily (pre-calibration and post-calibration after each sampling period) per the equipment manufacturer recommendations. Documentation of calibration will be maintained in the site log book or in a separate calibration log that will be used for this project.

TABLE 1-2 TARGET STRESSOR INFORMATION

TARGET STRESSOR	NIOSH ^a /OSHA ^b METHOD	SAMPLE MEDIA	RECOMMENDED FLOW RATES (LPM ^c) / VOLUME (LITERS)	OSHA PEL ^d
Asbestos	NIOSH 7400, PCM	0.8 micron mixed cellulose ester membrane, 25 millimeter diameter cassette(s)	0.5-16.0 / 480-1000	0.1 fibers/cc

a - National Institute for Occupational Safety and Health

b - Occupational Safety and Health Administration

c - Liters per minute

d - Permissible Exposure Limit

2.0 LABORATORY SAMPLE ANALYSIS AND REPORTING

Persons sampled, tasks performed, duration, volumes and laboratory results will be provided in a letter report format within four weeks of receiving the sample analysis results. Sampling and analyses will be performed in accordance with the appropriate NIOSH or OSHA method under the direction of a WESTON Health & Safety Supervisor. The proposed sample methods for this initial characterization monitoring are listed in Table 1-2.

Calculations to determine the 8-hour time weighted average (TWA) or ceiling concentration results will be performed as needed to allow for comparison to applicable OSHA Permissible Exposure Limits (PEL). All monitoring results will be available for review upon receipt from the laboratory.

Where personal sampling is performed, the WESTON Health and Safety Department will be responsible for informing employees and subcontractors of their monitoring results to comply with OSHA regulations and good occupational health practices. Within five working days after the receipt of monitoring results, the Health and Safety Department will notify each employee of the results, which represent that employee's exposure.

Whenever the results indicate that employee exposure exceeds the permissible exposure limits (PEL), notification shall be provided to affected employee stating that the permissible exposure limit was exceeded and providing a description of the corrective action taken to reduce exposure to a level below the PEL. Results of monitoring for other hazardous and harmful physical agents shall also be reported to employees in the same manner.

3.0 STANDARD OPERATING PROCEDURES (SOPS)

Reference WESTON START5 SOP 2017 and U.S. EPA ERT START5 SOP 807 for further information.